

are lacunæ occur in the form of large regular vessels, but slightly anastomotic, or otherwise they constitute a network with anastomoses more or less numerous and meshes in considerable though varying number and regularity of arrangement. Lastly, the reservoirs may be nothing more than irregular cavities produced by laceration.

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XXVII.—*Contributions to an Insect Fauna of the Amazon Valley.*

COLEOPTERA : LONGICORNES. By H. W. BATES, Esq.

[Continued from p. 109.]

Genus LOPHOPÆUM, nov. gen.

Head, antennæ, and general shape of the body as in *Alcidion*. The thorax differs from that and the allied genera in being armed near the centre of each side with an acute tubercle or spine. The surface of the thorax is generally smooth on the disk, but is in some species slightly uneven. The elytra are subtrigonal in shape and depressed as in *Alcidion*; the shoulders are moderately prominent, and in most species a lateral carina extends thence towards the apex, but, as in *Alcidion*, this becomes very obtuse or almost obliterated in some of the species. The apex of the elytra is more or less truncated and spined, and the centro-basal ridges are always prominent, although unconnected posteriorly with a dorsal carina, the disk of the elytra being always even. The ovipositor is not exerted in the females, nor is the apical segment of the abdomen produced. The thighs are thickly and abruptly clavate, and the tarsi very moderate in length.

1. *Lophopæum carinatum*, n. sp.

*L. curtulum*, minus depressum, postice rotundato-attenuatum, fusco-ferrugineum, nigro-fusco maculatum : elytris lateribus haud carinatis, carina centrobasali parum elevata nigro setosa, disco plagis tomentosis ochraceis variegato. Long.  $3\frac{3}{4}$  lin.

Head rusty brown. Antennæ rust-coloured, base of each joint (from the third) paler; the basal joint somewhat evenly clavate, the upper side being convex, and the lower scarcely flexuous, but tubercled at the apex. Thorax rusty brown, varied with dingy ochreous; the lateral spine quite central and acute. Elytra less depressed than in allied species, and attenuated curvilinearly to the apex, which is briefly and obliquely truncated, and without acute angles to the truncation: there is no lateral carina, and the centro-basal ridge is only moderately raised, but is crested with black hairs; the surface is thickly punctured, except near the apex, and is without raised lines or

inequalities, the colour being rusty brown, sprinkled over with darker spots, and varied behind the middle with two or three linear patches of decumbent hairs of an ochreous hue. The legs are rusty brown, with paler rings; the posterior tarsi, with their basal joints, are almost as short relatively as in the genus *Leptostylus*.

One example; Ega, Upper Amazons.

2. *Lophopæum fuliginosum*, n. sp.

*L. oblongum*, depressum, postice angustatum, fuliginosum, cano nigroque parce variegatum: elytris apice breviter truncatis, lateribus obtuse carinatis, carina centrobasali valde elevata et nuda. Long.  $3\frac{3}{4}$  lin.

Head dingy brown. Antennæ (in ♂) greatly elongated and, towards the apex, fine as a hair, sooty brown, the extreme base of each joint (from the third) pallid; basal joint strongly flexuous beneath. Thorax dingy brown, punctured on the disk, which also is marked with four indistinct black spots. Elytra depressed, sides nearly straight, apex briefly truncated, angles of the truncation obtuse; humeral angles moderately prominent, the lateral carina extending thence towards the apex, obtuse, but the centrobasal ridges are strongly elevated, acute, and naked; the surface is somewhat evenly punctured throughout, and of a sooty hue, like the rest of the body, but the apical half has a few whitish specks, and on the disk behind the middle on each side is a short oblique black line. Body beneath and legs olive-brown, base of thighs pallid; tibiæ and basal joint of tarsi also each with a pale ring. The basal joint of the posterior tarsi is longer than the two following taken together.

Neighbourhood of Santarem, Lower Amazons.

3. *Lophopæum circumflexum*, n. sp.

*L. curtulum*, depressum, postice valde attenuatum, ferrugineo-fuscum: elytris singulis pone medium linea abbreviata cinerea maculaque laterali notatis, apice breviter transverse truncatis, carina centrobasali magna acutissima. Long.  $3\frac{1}{2}$  lin.

Head dull brown. Antennæ greatly elongated, fine as a hair, most of the joints furnished with a short bristle at the apex beneath; rust-coloured. Thorax with the lateral tubercles spiniform, disk punctured, rusty brown, the middle with two broad dusky stripes, flanked by spots of the same colour. Elytra trigonal, shoulders prominent; lateral carina obtuse, apex briefly truncated, with the angles rounded; surface thickly punctured towards the base; centrobasal ridges strongly raised and acute, naked, or nearly so; ashy or rusty brown, spotted with darker brown, the disk behind the middle having on each side a short,

oblique pale ashy line, accompanied on the side nearer the base with a smaller line of the same hue, lying at right angles to it, the pale lines margined with dark brown. Body beneath and legs rusty brown.

Eggs; on dried twigs.

#### 4. *Lophopæum bituberculatum*, White.

*Leiopus bituberculatus*, White, Cat. Long. Col. Brit. Mus. ii. p. 382.

“*L. punctulatus*, cinereo-fuscus: antennis subferrugineis; oculis supra approximatis; elytris supra subplanis, arcu postmediano cinereo, singulis ad basin medio tuberculo parvo uncinato, ad mediam et posticam partes cinereo variegatis; femoribus basi pallidis; tibiis pallido uniannulatis; tarsorum articulo primo pallido. Long.  $3\frac{1}{4}$  lines. Eggs.” (White, *l. c.*)

This species very closely resembles *L. circumflexum* in shape and colours; but the centro-basal ridges are reduced to a tubercle. The lateral thoracic spines are placed near the middle of the thorax—the position they occupy in the genus *Lophopæum*; but the sides behind them are deeply sinuated, which gives the thorax a similar shape to that possessed by the typical *Leiopi*.

#### 5. *Lophopæum acutispine*, n. sp.

*L. latiusculum*, depressum, brunneum, postice cano marmoratum: thoracis disco obtuse tuberculato: elytris apice sinuato truncatis, angulo interno acuto, externo longe mucronato. Long.  $5\frac{1}{4}$  lin.

Head and antennæ dingy brown, basal joint of the latter flexuous beneath. Thorax wide; disk obtusely tuberculated, sides with the lateral tubercle very prominent and acute; colour dingy olivaceous brown, silky. Elytra rather broad; shoulders prominent, lateral carina proceeding thence, strongly marked and acute, apex rather broadly and transversely sinuate-truncate, the internal angle acute, the external produced into a long tooth or spine; the centro-basal ridge not much raised, but surmounted by a very high crest of hairs; the surface is coarsely punctured only near the base; the colour is the same as that of the thorax, but the posterior half is marbled with light grey. Body beneath silky brownish; legs the same, varied with grey. The basal joint of the tarsi is a little longer than the two following taken together.

Pará; on dead branches in the forest.

#### 6. *Lophopæum cultrifer*, White.

*Ægomorphus cultrifer*, White, Cat. Long. Col. Brit. Mus. ii. p. 374.

“*Æ. griseus*, fusco variegatus: thorace supra subtuberculato, dorso medio maculis duabus subtriangularibus fuscis, lateribus tuberculo apice acuminato et elevato: scutello fusco-griseo subcincto: ely-

tris singulis basi subtuberculatis, medio tuberculo supra acuto et apice postice producto: elytris singulis apice fasciis duabus fuscis: abdominis segmentis subtus lateribus fusco maculatis: pedibus griseis; femoribus intus fusco punctulatis; tibiis apice late fusco. Long. 6 lin." (White, *l. c.*)

The elongated form and grey colour of this species give it some resemblance to *Ægomorphus*, in which genus Mr. White placed it; but its depressed body would seem to suggest rather a relationship with the *Oreodera*. The great length and flexuous shape of the basal joint of the antennæ show, however, that its true place is amongst the *Acanthocinitæ*; and its strongly raised centro-basal ridges and acute lateral thoracic tubercles point out an affinity with the species I have grouped under the genus *Lophopæum*. Its form is elongate-oblong and depressed; the elytra have not very prominent shoulders, and do not taper to the apex; they therefore have not the trigonal shape which is usual in *Lophopæum* and *Alcidion*: as the species of these genera, however, vary in general shape, this is of less importance. The elytra are sinuate-truncate at the apex, and have both angles of the truncation slightly produced; there is no lateral carina, and the dorsal surface, with the exception of the strongly raised and naked centro-basal ridge, is free from raised lines. The thighs are strongly clavate, and the basal joint of the tarsi elongated.

Taken at Pará, and also at Ega on the Upper Amazons; the species has therefore a wide range.

#### Genus OZINEUS, nov. gen.

Body small, slender, depressed, and posteriorly attenuated. Antennæ as in *Alcidion* and the allied genera. Thorax with the lateral spines short, placed much behind the middle—in some species close to the hind angles, and in others coincident with them, but remaining always distinct. Elytra narrowed to the tips, which are truncated and toothed or spined; the centro-basal ridges prominent, but generally much smaller than in *Lophopæum* and *Alcidion*. Legs moderate in length; thighs abruptly clavate; tarsi slender, with the basal joint elongated.

This genus seems to form a connecting link between *Lophopæum* and the well-known group *Anisopodus*. Some of the species are almost as much flattened as the *Anisopodi*, but their hind legs are never elongated as in *Anisopodus*; the possession of prominent centro-basal ridges on the elytra is also a good distinctive character.

The species are all small and fragile; they are found, like most of those of the allied genera, on the bark of broken and decaying branches of trees in the forest, undergoing their transformations beneath the bark.

1. *Ozineus elongatus*, n. sp.

*O. angustatus*, *elongatus*, postice parum attenuatus, carneo-cinereus, ferrugineo-fusco maculatus: thoracis spinis lateralibus pone medium positis. Long.  $3\frac{1}{4}$  lin.

Head dusky: eyes large, nearly touching above; labrum yellow. Antennæ much elongated, capilliform, rusty brown, base of joints pallid. Thorax rather elongated, the lateral spines placed behind the middle, but leaving a considerable space between them and the hind angles; surface punctured, pinkish ashy, with dark-brown spots. Elytra narrow and elongate, tapering posteriorly to the apex, which is briefly truncate, the angles not produced; sides and disk without raised lines, the centro-basal ridges rising in the form of small tubercles crested with hairs; the surface (except the apical part) is punctured, and is of a pinkish-ashy hue, with numerous darker-coloured spots, some of which are collected into a transverse belt a little beyond the middle. Body beneath and legs pale testaceous; thighs with a large dusky spot; base and apex of tibiæ and tips of tarsi also dusky.

Ega. The position of the lateral thoracic spines is almost the same as in *Lophopæum bituberculatum*; the species would therefore seem to belong to the last genus rather than to the present one; but in the general shape of the body it agrees better with the species placed in the group *Ozineus*, the distance of the thoracic spines from the hind angles being probably due to the general elongation of the thorax and the rest of the body.

2. *Ozineus mysticus*, n. sp.

*O. subelongatus*, *depressus*, cinereo-fuscus, lineis angulatis canis ornatus: thoracis spinis lateralibus ab angulis posticis paulo distantibus: elytris postice modice attenuatis, apice peroblique sinuato-truncatis, angulis externis productis, carina centrobasali paulo elevata, elongata, pilis nigris cristata. Long. 3 lin.

Head ashy brown; eyes distant above. Antennæ greatly elongated and hair-like, rusty brown; tips of joints (from the third) blackish. Thorax with the lateral spines placed at a short distance from the hind angles; surface rusty brown, with several curved ashy lines. Elytra depressed, curvilinearly narrowed to the apex; sides with an obtuse carina; tips very obliquely sinuate-truncate, with the outer angles produced; the centro-basal ridge is elongated, very slightly raised, but fringed with black hairs; the surface is moderately punctured in some parts, and is of an ashy-brown hue, with whitish ashy markings, which are in the form of lines near the base, but united in a very oblique angulated belt near the middle, two curved letters re-

maining close to the suture near the apex. Body beneath and legs pallid; thighs and tibiæ dusky near their apices.

Ega, Upper Amazons.

### 3. *Ozineus doctus*, n. sp.

*O.* oblongus, modice depressus, postice rotundato-angustatus, fuliginosus, lineis curvatis albo-cinereis notatus: elytris apice oblique sinuato-truncatis et dentatis, carina centrobasali modice elevata, nigro penicillata. Long. 3 lin.

Head sooty black. Antennæ the same, with the bases of the joints (from the third) pallid. Thorax with the lateral spines placed near the hind angles, sooty brown, with a few whitish specks. Elytra oblong, curvilinearly narrowed to the apex, which is very obliquely truncated, both angles pointed; sides with an obtuse lateral carina; centro-basal ridges slightly raised, fringed with black hairs; the surface thickly punctured nearly to the apex, sooty brown, with a number of ashy-white letter-like marks, some of which are united near the middle of the disk of each elytron so as to form the letter V. Body beneath rust-coloured: legs dusky, base of thighs pale testaceous, the tibiæ in the middle and the basal and claw-joints of the tarsi ringed with pale testaceous.

On dried twigs in the forest at Obydos, on the Guiana side of the Lower Amazons; also at Pará. A closely allied species, having, however, different markings on the elytra, is found at Cayenne, and exists in several collections\*.

### 4. *Ozineus cinerascens*, n. sp.

*O.* subellipticus, olivaceo-cinereus fusco variegatus: thoracis spinis lateralibus prope angulos posteriores sitis: elytris oblique sinuato-truncatis; carinis centrobasalibus parvis, convexis, penicillatis: antennis pallide annulatis. Long.  $3\frac{1}{2}$  lin.

Head and thorax olivaceous ashy. Antennæ brown, the third, fourth, sixth, and eighth joints with their basal halves pale testaceous. Thorax partially punctured, its small acute lateral tubercles placed very near the posterior angles, a minute notch only appearing between them and the hind margins. Elytra

\* *O. strigosus*.—Oblongus, modice depressus, postice rotundato-angustatus. Caput fuliginosum. Antennæ obscure rufescentes, articulis apice nigricantibus. Thorax spinis lateralibus prope angulos posticos sitis, dorso fuliginoso-cinereo notato. Elytra apice per-oblique sinuato-truncata, angulis acutis, lateribus obtuse carinatis; carina centrobasali modice elevata, pilis nigris cristata, punctata, fuliginosa, singulis lineis quinque fusco-cinereis basin haud attingentibus et plus minusve confluentibus ornatis. Corpus subtus obscure rufescente. Pedes fuliginosi, femoribus basi rufescentibus, tibiis tarsisque rufescenti annulatis. Long. 3 lin. *Hab.* Cayenna.

subelliptical and depressed, the tips obliquely sinuate-truncate; the centro-basal ridge slightly elevated and crowned with blackish hairs; the basal half of the surface is punctured, and the colour is the same as that of the head and thorax, but varied with small olive-brown specks placed partly in rows, and an undulated fascia of the same behind the middle interrupted at the suture. Body beneath and legs yellowish testaceous, thinly clothed with ashy pile; apex of femora and tibiæ and middle part of the tarsi blackish.

Taken on dead slender branches at Santarem and on the banks of the Tapajos. At Villa Nova, on the banks of the Lower Amazons, I obtained one example, which differs considerably in colour from the Tapajos form. This may be called

Local var. *O. pallipes*. Same size and shape as the type. General colour tawny ashy. Antennæ with the basal joint reddish, the remaining joints dusky, with the basal portions of the third, fourth, sixth, eighth, and following joints clear pale testaceous. The disk of the thorax has several olive-brown spots. The elytra are of a reddish-tawny hue, with tawny-ashy pile; they are spotted as in the typical *O. cinerascens*, but instead of a waved fascia behind the middle, they have simply a short oblique stripe on the disk of each. Body beneath and legs pale testaceous; knees, tips of tibiæ, and middle of the tarsi dusky.

*O. cinerascens* resembles much in markings a small allied species from Rio Janeiro, which is as yet unnamed in collections\*.

\* *O. ignobilis*, n. sp.—Parvus, subellipticus, olivaceo-cinereus fusco variegatus. Caput fuscum. Antennæ rufo-piceæ, articulis (duobus basalibus exceptis) apice nigris. Thorax olivaceus, spinis lateralibus longioribus acutissimis, prope angulos posteriores sitis. Elytra subdepressa, apice peroblique sinuato-truncata, angulis externis longe mucronatis, carinis centrobasalibus longe nigro penicillatis; dorso punctata, cinereo-olivacea, maculis minutis fasciaque lata pone medium fuscis. Corpus subtus nigrum. Pedes nigricantes; femoribus, tibiis tarsisque dimidiis basalibus testaceis. Long. 2 lin. *Hab.* Rio Janeiro. *Coll.* Bakewell, Bates.

A very pretty species of this genus, captured near Rio Janeiro, by Squires, in some number, is

*O. rotundicollis*.—Oblongus, latiusculus, depressus, cinereus, griseus vel fulvus, cano fuscoque variegatus. Antennæ rufescentes, articulis (duobus basalibus exceptis) apice nigris. Thorax brevis, latus, lateribus ante medium dilatato-rotundatis, utrinque spina minuta distincta ab angulo postico distante; dorso punctato, nigro bimaculato, lateribus (infra spinam) plaga fusca cum vitta basali elytrorum conjuncta notatis. Elytra subtrigona, depressa, apice peroblique sinuato-truncata, angulis externis longe mucronatis, carinis centrobasalibus brevibus, carinis lateralibus acutis; dorso punctato, griseo vel fulvo,

## Genus ANISOPODUS, White.

White, Cat. Long. Col. Brit. Mus. ii. p. 349.

Syn. *Anisopus*, Serville, Ann. Soc. Ent. Fr. iv. p. 30 (name preoccupied).  
*Leptoscelis*, Erichson, Consp. Ins. Peruana, p. 145 (name preoccupied).

Char. emend. Body elongated and extremely flattened. Prothorax even on its upper surface, its lateral spines placed near the hind angles. Elytra oblong-oval, flattened, *without centro-basal ridges*; their apices sinuate-truncate and mucronate, their sides each furnished with a sharp lateral carina extending from the humeral angle to the tip. Thighs abruptly clubbed; the hind legs elongated, in the males of some species excessively so. Ovipositor of the female not apparent.

The last genus (*Ozineus*) seems to form the connecting link between the groups allied to *Alcidion* and the present genus, some of the species of *Ozineus* (e. g. *O. mysticus* and *O. rotundicollis*) having very much the general appearance of *Anisopodi*. The absence of the centro-basal ridges of the elytra, and the elongation of the hind legs, however, amply distinguish *Anisopodus* from the four preceding genera.

1. *Anisopodus phalangodes*, Erichs.

*Leptoscelis phalangodes*, Erichson, Consp. Ins. Col. Peruana, p. 145.

*A.* "oblongus, planus, badius, dense cinereo pubescens, infra lateribus nigro vittatis: elytris seriatim fusco punctatis, apice mucronatis: pedibus posticis fortiter elongatis, femoribus abrupte clavatis. Long.  $5\frac{1}{2}$  lin." (Erichs. *l. c.*) Eastern Peru.

This species is distinguished from its congeners, to some of which (*A. arachnoides*, *A. cognatus*) it is very closely allied, by the sides of the breast and the abdomen being marked each with a streak of a sooty-brown hue (extending to the deflexed margin of the elytra), which, from the silky nature of the pile that clothes the under surface of the body, is fainter in some lights than in others, and in small examples is scarcely perceptible. The site of the centro-basal ridges of the elytra is marked by a small rounded tubercle coloured black. The male is much larger than the female, reaching  $5\frac{1}{2}$  lines in length, the female being seldom longer than  $4\frac{1}{2}$  lines. The hind legs in the male are sometimes 10 lines long. Besides the black spot on the elytra over the centro-basal tubercle, there is, in the males, a larger and irre-

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medio late cano fasciato, fascia fusco maculata, postice sinuata et fusco marginata. Corpus subtus testaceum. Pedes rufescentes, tibiis apice tarsisque nigro maculatis; tibiis anticis medio intus tuberculo conico instructis. Long.  $3\frac{1}{2}$  lin. *Hab.* Rio Janeiro. Coll. Bakewell, Bates, &c.



gular spot on the disk of each towards the apex, and in most specimens a small lateral streak on the edge of the lateral carinâ a little behind the middle; this latter, however, never extends towards the disk of the elytra, as does the similarly placed spot in *A. arachnoides*, *A. cognatus*, and *A. sparsus*. *A. phalangodes* also differs from its relatives in the shape and direction of the lateral thoracic spine, this being large, robust, and prominent, directed obliquely towards the edge of the humeral angle of the elytra, and not standing at right angles to the side of the thorax, as in *A. arachnoides*, or having its point directed in continuation of the thoracic outline, as in *A. cognatus*. Both angles of the truncation of the elytra are mucronate.

The species occurred, sometimes abundantly, on the boughs of fallen trees, in moist hollows of the forest at Ega, Upper Amazons. I could not ascertain the special use of the elongated hind legs of the male. Like all the species of this and the allied genera, the insects pass their lives on the bark, their larvæ feeding and undergoing their transformations between the bark and the wood, and the perfect insects rambling on the outside of the fallen boughs, on which, after copulation, the females deposit their eggs.

In the collection of Mr. Bakewell there is a specimen of this species from Cayenne, differing from Upper-Amazons examples only in the dark-brown points of the elytra being a little more distinct and encircled with grey.

## 2. *Anisopodus arachnoides*, Serv.

*Anisopus arachnoides*, Serville, Ann. Soc. Ent. Fr. iv. p. 31.

*A. oblongus*, griseus, sericeus, fusco punctatus: thoracis spinis lateralibus distinctis porrectis: elytris apice modice spinosis; tuberculis centrobasalibus hirsutis; lateribus atro-fuscis, maculis tribus adjacentibus, una pone medium, irregulari, majore: pedibus posticis vix elongatis. Long.  $4\frac{1}{2}$ –6 lin.

Head brown. Antennæ pitchy red, tips of joints (from the third) dusky. Thorax greyish, with two black spots on the fore part of the disk; sparsely punctate; the lateral spines standing out at right angles from the sides. Elytra transversely sinuate-truncate at the apex, the inner angle of the truncation pointed, the outer moderately prolonged as a spine; the surface is grey, with scattered black points and a black pencil of hairs over the centro-basal tubercles: the deflexed sides are dark brown and silky, and, above, this colour extends in three irregular spots—one near the base, one after the middle reaching to the disk of the elytron, and one smaller near the apex. The underside of the body is silky ashy. The legs are dusky, ringed with grey. The hind legs of the male are only slightly elongated.

The above description applies to a species which I have seen in collections at Paris under the name of *A. arachnoides* of Serville, and to which the description of Serville applies, as far as it goes. I found it on the same trees with *A. phalangodes* at Ega, and also met with it at Pará.

### 3. *Anisopodus cognatus*, n. sp.

*A. subellipticus*, carneo-griseus, sericeus, nigro punctatus: thoracis spinis lateralibus unciformibus: elytris absque tuberculis centro-basalibus, apice breviter mucronatis, pone medium macula laterali nigra obliqua notatis: pedibus posticis maris elongatis, fortiter clavatis. Long. 4 lin.

Head brownish. Antennæ pitchy red, tips of the joints dusky. Thorax greyish, fore part of the disk with two black spots, punctured; the lateral spines pointing to the hind angles, their anterior sides (nearest the head) being continuous with the lateral outline of the thorax, and therefore giving them a hooked shape. Elytra sinuate-truncate at the apex, both angles of the truncation pointed, but neither prolonged into a spine; the surface is grey with a pinkish shade, irregularly spotted with blackish, and having each, behind the middle, an oblique spot or fascia extending from the side to the middle; the deflexed margins are of a light silky-brown hue, like the under surface of the body. Legs dusky, base of thighs and tarsi pale testaceous. The hind legs of the male considerably elongated; the thighs in both sexes abruptly clavate.

Ega and S. Paulo, Upper Amazons, in the same situations as, and sometimes in company with *A. phalangodes*.

### 4. *Anisopodus sparsus*, n. sp.

*A. subellipticus*, carneo-griseus, sericeus, nigro punctatus: thoracis spinis lateralibus brevissimis, antice a lateribus vix distinctis: elytris apice oblique sinuato-truncatis, angulis vix productis, absque tuberculis centrobasalibus, pone medium atro-fusco fasciatis. Long.  $4\frac{1}{2}$ – $5\frac{1}{2}$  lin.

Head greyish silky. Antennæ reddish, tips of joints dusky. Thorax pinkish grey, punctured, bimaculate; lateral spines on their anterior sides scarcely distinct from the sides of the thorax, their minute points only being directed outwards; they have, therefore, not the hook-like shape of those of *A. cognatus*. Elytra with the angles of their truncation scarcely produced; their surface is grey, with a pinkish tinge, finely spotted with blackish, and with a largish black spot marking the site of the centro-basal tubercles (which are quite absent), besides an angled fascia of the same hue crossing behind the middle. The deflexed sides and under surface of the body are light brown and silky.

The legs are reddish, with the tips of the thighs, tibiæ, and tarsi dusky. The hind legs of the males are greatly elongated, but their thighs are not very abruptly clubbed.

Santarem and Obydos; generally on severed and hanging sipós, or woody climbers, near the borders of clearings. It appears to be not uncommon in Cayenne, examples from which country have been sent to me from Paris as *A. sparsus* of Dejean's catalogue.

5. *Anisopodus pusillus*, n. sp.

*A. oblongus*, griseus, fusco maculatus: thoracis spinis lateralibus antice a lateribus vix distinctis, retrorsum spectantibus: elytris apice breviter sinuato-truncatis; angulis internis acutis, externis productis; carinis lateralibus obtusis: femoribus modice clavatis. Long. 3 lin.

Head brown. Antennæ reddish, tips of joints dusky. Thorax thinly clothed with grey pile, sides with rufous-brown patches, and disk with two large rounded blackish spots; lateral spines large and acute, scarcely distinct anteriorly from the sides of the thorax, and pointing obliquely towards the humeral angles of the elytra. Elytra oblong, the lateral keels not sharp, and hence the surface apparently less flattened than in the preceding species; apex moderately mucronated; surface greyish, with a moderate number of rather large round brownish spots more or less confluent, one on the site of the centro-basal tubercles (which are quite absent), and another, lateral, near the middle of the elytra, being larger than the others. Body beneath and legs reddish. The legs are rather slender, and the thighs not abruptly, although distinctly clubbed.

This small and delicate species was found only at Pará.

6. *Anisopodus elongatus*, n. sp.

*A. elongatus*, ellipticus, fulvo-griseus, cano fuscoque punctatus: thoracis spinis lateralibus acutissimis, retrorsum curvatis, basi tumidis: elytris apice utrinque bimucronatis: pedibus posticis femoribus modice clavatis. Long.  $5\frac{1}{2}$  lin. ♀.

Head clothed with shining tawny pile. Antennæ reddish, tips of joints dusky. Thorax with the sides rather dilated and tumid at the base (on the fore side) of the lateral spines, which appear curved posteriorly, and have very acute points; disk punctured, tawny brown, with a short polished dorsal line and two discal black spots edged with light grey. Elytra narrow and greatly elongated, both angles of the truncation produced into spines; lateral carinæ rather obtuse, surface punctured, except near the apex, and of a tawny-brown hue, with three rows of alternate whitish and brownish spots, besides a sutural

row of brown and grey specks. Body beneath and legs pale brown; hind thighs moderately clubbed in the female.

Found only at Ega, Upper Amazons.

7. *Anisopodus macropus*, n. sp.

*A. elongatus*, planus, griseus, fusco punctatus: elytris dimidio apicali nigro, cano notato, apicibus utrinque bispinosus: pedibus posticis maris maxime elongatis, tenuibus, femoribus abrupte clavatis. Long.  $4\frac{1}{4}$  lin.

Head dusky. Antennæ rust-coloured. Thorax rather long, narrow in front, sinuated on each side, and then abruptly dilated, the dilatation terminating at the apex of the spine, which is obtuse, and points towards the hind angle; the surface is punctured, and has an impressed dorsal line, the colour being obscure greyish, with four indistinct oblong sooty spots not reaching the hind margin. Elytra elongate, narrow, flattened, although having the lateral keels obtuse; the apex transversely sinuate-truncate, with both angles spiniform; their surface is covered with equidistant punctures, and is, on the basal half, of a dull pinkish-grey hue, spotted with dark brown, whilst the apical half is dull black, with a few greyish marks. Body beneath clothed with silvery ashy pile. Legs slender; all thighs abruptly clubbed, the fore and middle pair having on their under side near the base a small tooth; they are of a dusky hue, with the base of the femora pallid. The hind legs in the male (the only sex known) are extremely long and slender.

Of this elegant species I found only a single example at S. Paulo, Upper Amazons.

8. *Anisopodus gracillimus*, n. sp.

*A. oblongus*, gracilis, olivaceus, nigro punctatus: thoracis spinis lateralibus retrorsum curvatis, basi tumidis: elytris apice utrinque bidentatis, pone medium nigro undulato-fasciatis: pedibus posticis ( $\sigma$ ) fortiter elongatis, femoribus abrupte incrassatis. Long.  $2\frac{3}{4}$ –4 lin.

Head olive-green. Antennæ blackish, base of joints reddish. Thorax with the sides dilated and tumid before the spines, which latter consequently appear curved, and are placed close to the hind angles; the pile of the surface has an olive-green hue, leaving three blackish streaks in the middle—two touching the front margin, and one, lying between the anterior two, the hind margin. Elytra with both angles of the truncation produced, but not to a notable length, the external one longest; lateral keels obtuse; surface olive-green, spotted with blackish, an undulated fascia of the same colour crossing the middle, and two small patches lying on the sides, namely, one near the base, and

one near the apex. Body beneath of an olive-ashy tinge. Legs dusky, base of thighs pale. Hind legs of the male greatly elongated; the thighs much more thickly clubbed in the male than in the female.

Taken once abundantly on dried twigs in the forest at Ega.

9. *Anisopodus ligneus*, n. sp.

*A.* oblongo-ovatus, fulvus, strigosus: thoracis spinis lateralibus conicis, prope angulum posticum sitis: elytris postice valde attenuatis, apice peroblique truncatis, angulis externis mucronatis; femoribus abrupte clavatis. Long.  $4\frac{1}{2}$ –5 lin.

Head tawny brown, vertex spotted with dark brown. Antennæ reddish, tips of joints dusky. Thorax rather short, coarsely punctured, the lateral spines conical, and placed very close to the hind angles; colour tawny brown. Elytra rather oval in shape, rapidly attenuated from three-fourths their length to the tip; the tip is consequently pointed, and the truncation so short that each elytron may be said to end in a spine notched on the inner side, instead of being obliquely sinuate-truncate; the lateral keel is sharply marked, the surface is marked with several (seven or eight) slightly raised lines extending from the base to near the apex, but most of them bent near the base, and with as many corresponding depressed lines between them, the latter of which are thickly punctured, whilst the raised lines are impunctate; the colour is of a tawny-brownish hue, the base being dusky, and the apical third of a deeper tawny hue—the whole giving to the insect a striking resemblance to a chip of wood. Body beneath and legs reddish. Thighs abruptly clubbed; hind legs of the male greatly elongated.

Taken in the forests of the Tapajos and at Ega. Rare.

10. *Anisopodus lignicola*, n. sp.

*A.* oblongo-ovatus, cinereo-ochraceus, humeris fulvescentibus: thoracis spinis lateralibus magnis, acutis, obliquis: elytris postice valde attenuatis, apice peroblique sinuato-truncatis, subplanis, punctatis. Long. 3 lin.

Head reddish. Antennæ reddish, tips of joints dusky. Thorax ochraceous or yellowish ashy, with two obscure dusky lines on the disk; the lateral spines large, thick, directed obliquely rearwards, the thorax behind the spines being much narrowed. Elytra narrowed to the tips, which are obliquely sinuate-truncate, the inner angles pointed, the outer spiniform; the lateral keels are obtuse, but distinct; the surface is plane, but not notably depressed, minutely punctured, ashy-ochraceous in hue, with obscure spots and oblique fasciæ (on the sides) of a darker colour, a triangular spot on each shoulder, extending over the

scutellum, being of a ruddier ochreous tinge. Body beneath and legs of a tawny colour; thighs moderately clavate.

Pará and the banks of the Tapajos.

11. *Anisopodus humeralis*, n. sp.

*A. oblongo-ovatus*, niger: thoracis lateribus humerisque fulvescentibus; spinis lateralibus magnis, acutis, obliquis. Long. 3 lin.

Head dusky, with the sides bright tawny. Antennæ pitchy red, tips of joints dusky. Thorax with the sides shining tawny, the middle portion dusky, with two more distinct black dorsal stripes; the spines as in *A. lignicola*—namely, large, acute, obliquely directed rearwards, and followed by a narrowing of the thorax to the base. Elytra oval, narrowed to the tips, which are obliquely sinuate-truncate, the inner angles pointed, and the outer spiniform; the lateral keels are indistinct; the surface is closely punctured, the colour sooty black, varied with a few ashy marks, the shoulders having each a triangular tawny spot, which does not cover the scutellum. Body beneath and legs dusky; hind femora (in the ♀) but slightly clavate.

One example, S. Paulo, Upper Amazons. It is possible, notwithstanding the great difference in colour, that it may be but a local variety of *A. lignicola*.

Two other species of *Anisopodus*, in addition to the eleven here enumerated, have been described, namely, *A. curvilineatus* (White, Brit. Mus. Cat. ii. p. 350, pl. 9. f. 1) of South Brazil, and *L. prolixus* (Erichson, Consp. Ins. Peruana, p. 145) of Eastern Peru. The latter is the largest species at present known, and seems to be closely allied to *A. arachnoides*. I add a description, at the foot, of a fourteenth species\*.

XXVIII.—On the *Raphides* of *Onagraceæ*.

By GEORGE GULLIVER, F.R.S.

WE have already seen ('Annals' for April and July 1863) how well this order is characterized by raphides, so that not only can a plant belonging to it be henceforth truly distinguished from others of nearly allied orders by these acicular crystals alone, but a minute fragment of the leaf or its modifications may be

\* *A. canus*.—Oblongus, planus, tomento denso canescente vestitus. Antennæ rufescentes, articulis apice nigris. Thorax punctatus, antice nigro bivittatus, spinis lateralibus tenuibus porrectis. Elytra lateribus parallelis, prope apicem subito attenuata, dorso inæqualia, medio fortiter depressa, carinis lateralibus acutissimis, apicibus longe mucronatis; canescentia, maculis minutis nigris sparsa, quarum duabus distinctioribus prope apicem. Pedes nigricantes, femoribus tibiisque dimidiis basalibus rufis. Femora postica (maris?) elongata, subito clavata. Long. 2½ lin. *Hab.* Brasilia meridionalis. Coll. Bakewell.